

Nine Metal Fabrication and Finishing Source Categories 40 CFR Part 63 Subpart XXXXXX (6X)

Area Source NESHAP

Iowa Waste Reduction Center

University of Northern Iowa

Applicability

- Facilities that use materials that contain or have the potential to emit metal fabrication or finishing metal HAP (*MFHAP*).

MFHAP are materials that contain:

Cadmium, Chromium, Lead, or Nickel ≥ 0.1 % by weight of the metal

Manganese ≥ 1 % by weight of the metal.

AND

Facilities that are *primarily engaged* in one of the following nine source categories (**SIC/ NAICS**):

(1) Electrical and Electronic Equipment Finishing Operations

- Motor and Generator Manufacturers (3621/335312)
- All other Miscellaneous Electrical Equipment and Component Manufacturing (3699/335999)

(2) Fabricated Metal Products

- Powder Metallurgy Part Manufacturing(3499/332117)
- All other Miscellaneous Fabricated Metal Product Manufacturing (3499/332999)

(3) Fabricated Plate Work (Boiler Shops)

- Plate Work Manufacturing (3443/332313)
- Power Boiler and Heat Exchanger Manufacturing(3443/332410)
- Metal Tank (Heavy Gauge) Manufacturing (3443/332420)

Facilities that are *primarily engaged* in one of the following nine source categories (**SIC/ NAICS**):

- (4) Fabricated Structural Metal Manufacturing
(3441/332312)
- (5) Heating Equipment, except Electric
(3433/333414)
- (6) Industrial Machinery and Equipment Finishing
Operations
 - Construction Machinery Manufacturing (3531/333120)
 - Oil and Gas Field Machinery and Equipment Manufacturing
(3533/333132)
 - Pump and Pumping Equipment Manufacturing (3561/333911)

Facilities that are *primarily engaged* in one of the following nine source categories (**SIC/ NAICS**):

- (7) Iron and Steel Forging (**3462/332111**)
- (8) Primary Metal Products Manufacturing (**3399/332618**)
- (9) Valves and Pipe Fittings (**3494/332919**)

Primarily Engaged Means:

Manufacturing, fabricating, or forging of one or more products listed in the nine metal fabrication or finishing source categories; where this production represents at least 50% of the production at the facility.

The period used to determine production should be the previous continuous 12 months.

Facilities must document and retain their rationale for the determination that their facility is not “primarily engaged.”

Sources Not Affected

- (1) Research or laboratories facilities;
- (2) Tool or equipment repair operations, facility maintenance, or quality control activities;
- (3) Operations performed at installations owned or operated by the US Armed Forces, NASA, or the National Nuclear Security Administration;
- (4) Operations that produce military munitions manufactured by or for the US Armed Forces, or equipment directly and exclusively used for the purposes of transporting military munitions.

Operations subject to this rule are not subject to 40 CFR Part 63, subpart HHHHHH.

Quality Control Activities

- Activities intended to detect or correct defects in the final project by selecting a limited number of samples and comparing the samples against specific performance criteria.
- Quality Control Activities do not include:
 - The production of an intermediate or final product for sale or exchange for commercial profit
 - Activities that are a normal part of the operation
 - Facility maintenance

Affected Operations

■ Dry abrasive blasting

- Hydro blasting, wet abrasive blasting or other abrasive blasting operations which employ liquids to reduce emissions are not dry abrasive blasting.

■ Machining

- Processes specifically excluded are hand-held devices and any process employing fluids for lubrication or cooling.

■ Dry grinding and dry polishing with machines

- Hand grinding, hand polishing, and bench top dry grinding and dry polishing are not included.

■ Welding

Affected Operations

■ Spray painting

- Does not include the following materials or activities:
 - Paints applied from a hand-held device with a paint cup capacity less than 3.0 fluid ounces.
 - Power Coating or surface coating using hand-held, non-refillable aerosol containers, or non-atomizing technologies, including but not limited to, paint brushed, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens.
 - Paint operations that normally require the use of an airbrush or an extension on the spray gun to properly reach limited access spaces.
 - The application of paints that contain fillers that adversely affect atomization with HVLP spray guns.
 - The application of paints that normally have a dried film thickness of less than 0.0013 cm (0.0005 in).

Common Practice

- Operate all equipment according to manufacturer's instructions.

Dry abrasive blasting

- In totally enclosed and unvented chambers:
 - Minimize dust generation during emptying of abrasive blasting enclosures.

Dry Abrasive Blasting

- In vented enclosures:
 - Capture emissions and vent them to a filtration control device.
 - Take measures necessary to minimize excess dust in the surrounding area.
 - Enclose dusty abrasive material storage areas and holding bins.
 - Seal chutes and conveyors that transport abrasive materials.

Dry abrasive blasting

- Of objects ≥ 8 ft in any one dimension:
 - Minimize excess dust in surrounding area.
 - Enclose dusty abrasive material storage areas and holding bins.
 - Seal chutes and conveyors that transport abrasive materials.
 - Do not reuse the blasting media.
 - Wherever practicable, switch from high PM-emitting blasting media to low PM-emitting blasting media.

Dry Abrasive Blasting

- Of objects ≥ 8 ft in any one dimension:
 - If performed outdoors, perform visual determinations of fugitive emissions at the fence line or property border nearest to operation.
 - If performed indoors, perform visual determinations of fugitive emissions at the primary vent, stack, exit, or opening from the building.
 - If fugitive emissions are detected, perform corrective actions and follow-up inspections.

Machining

- Minimize excess dust in surrounding areas.

Dry grinding and dry polishing with machines

- Capture emissions and vent to a filtration control device.
- Minimize excess dust in surrounding areas.

Spray painting

Spray booths or spray rooms must:

- Have a full roof and all sides covered (at least two complete walls).
- Be ventilated and have a filter system or water curtain that achieves at least 98% capture of MFHAP.
- Regularly inspect and replace filters.
- These requirements do not apply to affected sources located at Fabricated Structural Metal Manufacturing facilities or sources that paint objects > 15 ft, that are not painted in a booth.

Spray painting

- All paints must be applied with a HVLP spray gun, electrostatic application, airless spray gun or an equivalent high transfer efficiency technology.
- All spray gun cleaning must be done with non-HAP containing cleaners or in a way that an atomized mist or spray of cleaning solvent/residual paint is not created outside the container used for collecting the cleaning solvent/residual paint.

Spray Painter Training

- All painters at a facility must be certified that they have received training on the following:
 - Spray gun equipment selection, set up, and operation.
 - Spray techniques to improve transfer efficiency.
 - Routine spray booth maintenance and filter selection, installation and maintenance.
 - Environmental compliance with respect to this rule.
- Training and certification is required every 5 years.
- Records of training certification must be kept.

Welding

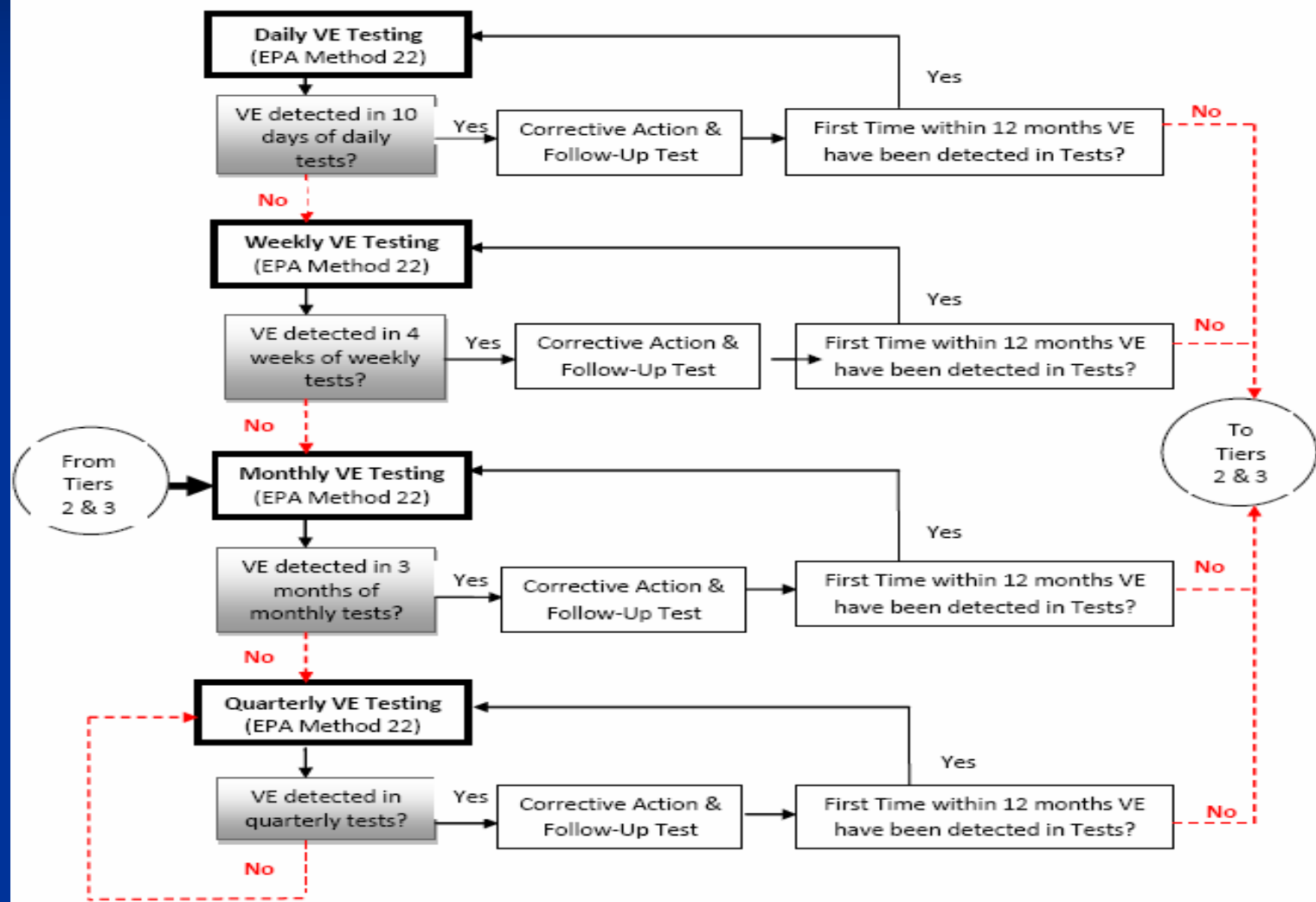
- Minimize MFHAP emissions, as practicable, by:
 - Use welding processes with reduced fume generation capabilities (e.g. MIG/GMAW).
 - Use welding processes variations that reduce fume generation rates (e.g. pulse current GMAW).
 - Use welding filler materials, shielding gases, carrier gases, or other processes materials that reduce fume generation.
 - Optimize welding process variables (e.g. electrode diameter, voltage, amperage, welding angle, etc) to reduce fume generation.
 - Use a welding fume capture and control system.

Welding

- If facilities use $\geq 2,000$ lbs/year of welding rod containing MFHAP (calculated on a 12-month rolling basis):
 - Perform all previous listed requirements; and
 - Perform visual determinations of fugitive emissions at the primary vent, stack, exit, or opening from the building.
 - If fugitive emissions are detected, perform corrective actions and follow-up inspections.
 - If fugitive emissions are detected more than once in a 12-month period, visual determinations of emissions opacity are required in lieu of visual determinations of fugitive emissions.
 - For opacities $> 20\%$, prepare and implement a Site-Specific Welding Emissions Management Plan.

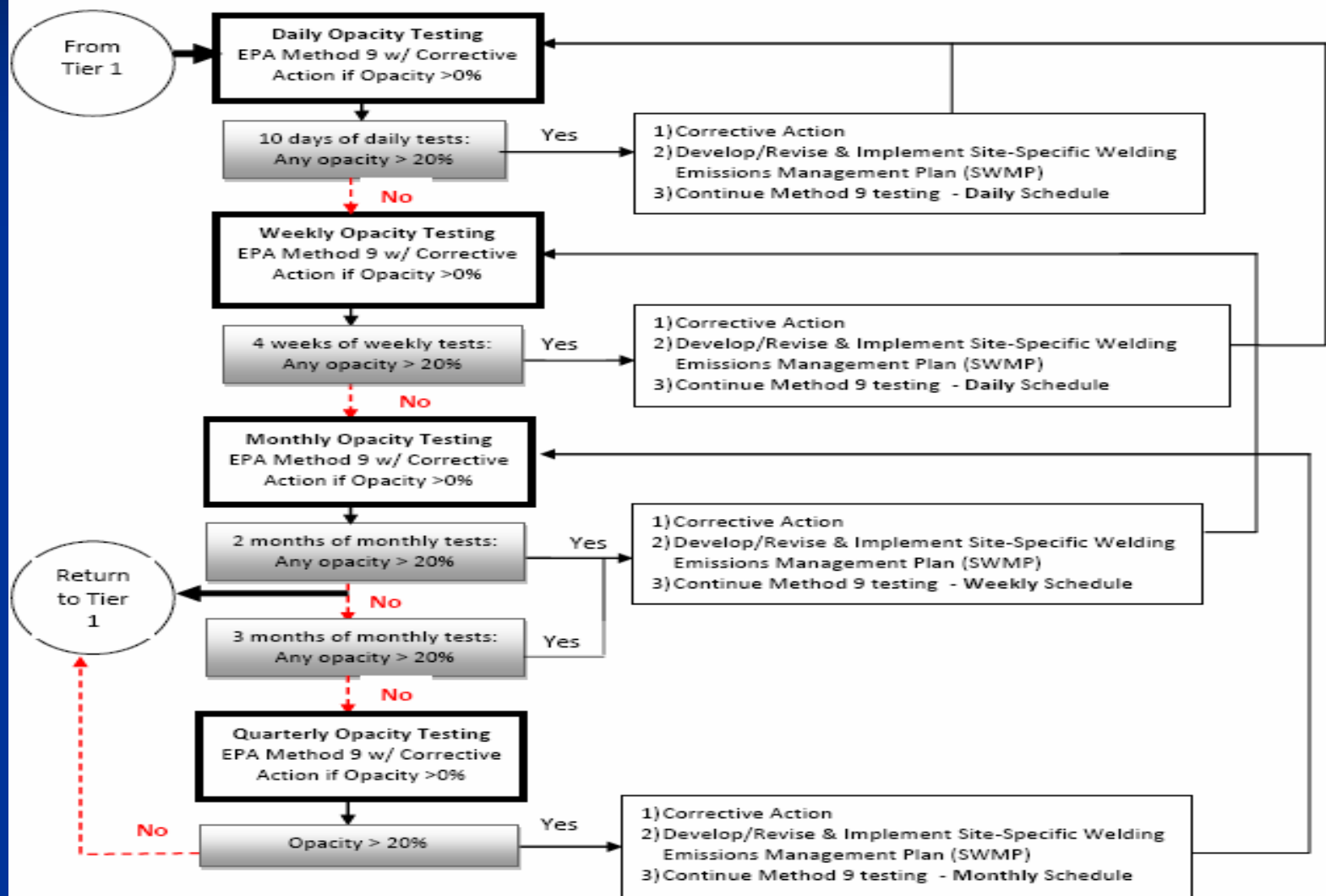
Monitoring Requirements for Visible Emissions Determination of Fugitive Emissions

Tier 1 – Visible Emissions Testing for Welding Operations; EPA Method 22



Monitoring Requirements for Visible Determination of Fugitive Emissions

Tier 2 & 3 – Visible Emissions Testing for Welding Operation; EPA Method 9



Visual Determination of Fugitive Emissions (Method 22)

- Uses the human eye to determine the total time an industrial activity causes visible emissions.
- Fugitive emissions are non-stack emissions that escape during material transfer, from buildings that contain the process, or directly from process equipment.
- No certification is required, just record the amount of time you see emissions.
- Must understand the effects of background contrast, ambient lighting and where you should stand to make your observation.

Visual Determination of Emissions Opacity (Method 9)

- This method involves the determination of plume opacity (density) by qualified observers.
- Observers must be certified every six months.
 - To receive certification as a qualified observer, a candidate must be tested and demonstrate the ability to assign opacity readings in 5% increments to 25 different black plumes and 25 different white plumes, with an error not to exceed 15% opacity on any one reading and average error not to exceed 7.5% opacity in each category.

Compliance Dates

Existing Source if commenced construction or reconstruction prior to April 3, 2008 otherwise considered a new source.

Compliance with Rule Requirements

- Existing sources: July 25, 2011
- New sources: July 23, 2008 or upon start of affected source, whichever is later.

Spray painting training and certification

- Existing sources: July 25, 2011 or 180 days after hiring, whichever is later.
- New sources: January 20, 2009, 180 days after start up or 180 days after hiring, whichever is later.

Notification Requirements

■ Existing Sources

- Initial Notification: July 25, 2011
- Notification of Compliance Status: November 22, 2011

■ New Sources

- Initial Notification and Notification of Compliance Status: 120 days after initial startup or November 20, 2008, whichever is later.

Initial Notification

- Must include:
 - Name, address, phone number, and e-mail address of the owner and operator.
 - Physical address of the affected source.
 - A statement indicating that the facility is subject to this standard.
 - A brief description of facility's operations and products produced

Notification of Compliance Status

- Must include:
 - Company's name and address.
 - Statement by a responsible official certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with the relevant standards of this rule.
 - Date of notification of compliance status.

Recordkeeping Requirements

- Records must be suitable and readily available for expeditious review
- Must be kept for 5 years, at least 2 years on-site
- Shall include:
 - Copies of all notifications and reports, and supporting documentation.
 - Records of applicability determinations.
 - If applicable, records associated with visual determinations of fugitive emissions.
 - If applicable, records associated with visual determinations of emissions opacity.

Recordkeeping Requirements

- Shall include (continued):
 - Spray paint booth filter records
 - Spray paint delivery system efficiency records
 - Spray paint employee training records
 - Records associated with visual determinations of emissions opacity performed during development or revision of a site-specific Welding Emissions Management Plan
 - If applicable, copy of site-specific Welding Emissions Management Plan
 - Amount of welding rod used on a 12-month rolling basis
 - Manufacturer's specifications for control devices
 - Copy of the manufacturer's instructions for equipment used for compliance

For more information or questions, please contact
Iowa Department of Natural Resources: 1-877-AIR-IOWA
Iowa Waste Reduction Center: 1-800-422-3109

This presentation has been funded in part by the Iowa Department of Natural Resources. This is intended solely as guidance, cannot be used to bind the Iowa Department of Natural Resources, and is not a substitute for reading applicable statutes and regulations.

Questions/Comments